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Attorney Docket No. 5649-1112

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Jae-hyoung Choi *et al.*
Application No.: 10/629,430

Filed: July 29, 2003

For: **METHODS OF FORMING SEMICONDUCTOR DEVICES INCLUDING
THERMAL PROCESSING**

Conf. No.: 6037
Group Art Unit: 2812
Examiner: Jennifer M. Kennedy

Date: March 7, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO ELECTION REQUIREMENT

Sir:

This response is submitted in reply to the Official Action dated February 14, 2005 ("the Action"). In the Action, the Examiner required an election from the following species:

- Species A. An embodiment in which the tantalum oxide layer is substantially amorphous.
- Species B. An embodiment in which the tantalum oxide layer is crystallized during the heat treatment.

In addition, the Examiner required election from one of the following species:

- Species 1. A first embodiment in which the heat treatment includes a first heat treatment at 450-600 degrees C in an inert gas atmosphere and a second heat treatment at 350-450 degrees C in a atmosphere including oxygen.
- Species 2. A second embodiment in which the heat treatment includes a heat treatment at 450-600 degrees C in an inert gas atmosphere.
- Species 3. A third embodiment in which the heat treatment includes a first heat treatment at 350-450 degrees C in a atmosphere including oxygen and a second heat treatment at 450-600 degrees C in an inert gas atmosphere.
- Species 4. A fourth embodiment in which the heat treatment includes a first heat treatment at 650-700 degrees C in an inert gas atmosphere and a second heat treatment at 350-450 degrees C in a atmosphere including oxygen.
- Species 5. A fifth embodiment in which the heat treatment includes a heat treatment at 650-700 degrees C in an inert gas atmosphere.
- Species 6. A sixth embodiment in which the heat treatment includes a first heat treatment at 350-450 degrees C in a atmosphere including oxygen and a second heat treatment at 650-700 degrees C in an inert gas atmosphere.

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The Applicants hereby elect, without traverse, the following named claims belonging to both Species A and Species 2. In particular, Claims 1-23 and 33-44 read on Species A, and Claims 1, 3-4, 9-15, 18, 20-24, 29-33, and 36-41 read on Species 2. Accordingly, the Applicants respectfully request further examination of Claims 1, 3-4, 9-15, 18, 20-23, 33, and 36-41 which read on both Species A and Species 2.

The Applicants agree with the Examiner's position that Claims 1 and 33 are generic to all species. In addition, the Applicants submit that Claims 4 and 18 are generic to Species 1 (including Claims 2, 16, and 34), Species 2 (including Claims 4 and 18), and Species 3 (including Claims 5 and 19). The Applicants further submit that Claims 9-14 and 36-41 are generic to all species.

Accordingly, the Applicants request examination and allowance of the Claims reading on both Species A and Species 2 (including Claims 1, 3-4, 9-15, 18, 20-23, 33, and 36-41). Upon allowance of elected claims, the Applicants further request allowance of the additional Claims of Species B and/or Species 1 and 3.

If any extension of time for the accompanying response or submission is required, Applicant requests that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to our Deposit Account No. 50-0220.

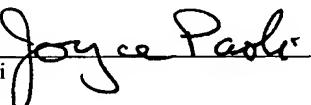
Respectfully submitted,


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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 7, 2005.


Joyce Paoli